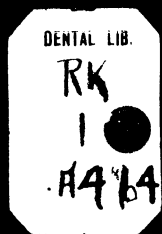
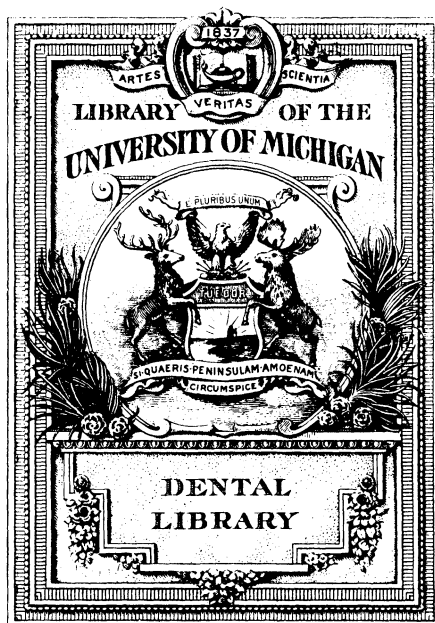


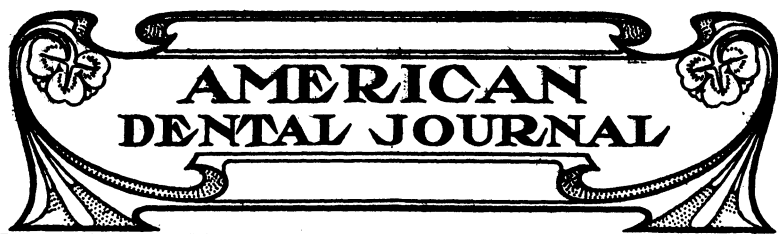
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A fourth of a century of continued, satisfactory employment of Listerine has demonstrated to many practitioners that Listerine is the best antiseptic to prescribe for daily use by the patient in the care and preservation of the teeth. The mild, stimulating effect of the free boric acid radical in Listerine is of the highest importance in maintaining a healthy equilibrium of the fluids of the oral cavity. At best, alkalies simply temporarily neutralize the acid-forming ferments which the carbohydrates of food produce in the mouth,—a true antiseptic prevents that fermentative change.

Literature will be forwarded upon request, containing a brief résumé of recent bacteriological investigations supporting the above argument.

Lambert Pharmacal Co.

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PROGRESSIVE COURSE OF PRACTICAL INSTRUCTION.

ORTHODONTIA.

BY J. N. M'DOWELL, D. D. S.,
PROFESSOR OF ORTHODONTIA, COLLEGE OF DENTISTRY, UNIVERSITY OF
ILLINOIS.

CHAPTER XVIII.

TRANSITION OF THE OCCLUSION OR SO-CALLED JUMPING THE BITE—
DEDUCTIONS—TREATMENT—POSSIBLE AGE—PROBABLE AGE—
IMPOSSIBLE AGE.

At birth there is practically no glenoid fossa (Fig. 1), the condyle being held in position by the muscles and ligaments. At the age of three years (Fig. 2) there is but a slight depression indi-



Fig. 1.

cating where the fossa is forming. At the age of four years (Fig. 3) only a slight modification of the fossa has taken place. At the age of eight years (Fig. 4) the fossa is still shallow and with its long, sloping margins, gives ample opportunity for changes in the articu-

lating point by movement of the condyle. Conditions at this time of life favorable for a movement in the position of the lower jaw would effect a change in the articulation of the condyle in the glenoid fossa with the greatest ease, and an abnormal articulating joint could be easily established, which if allowed to remain until the ligaments and muscles become firm, tense and well set and the bony structures had assumed the hardness of maturity, the condition would become permanent. As far as the new articulating point in the fossa is concerned it would serve its purpose almost as good as normal;



Fig. 2.

the result, however, being a change of the occlusion of the teeth interfering with mastication and a change of the facial appearance. At the age of twelve years the development of the alveolar process is about completed. The bones have rapidly attained a degree of hardness and the muscles have become firm and tense. At the age of fifteen years the glenoid fossa is well developed (Fig. 5). The osseous structure has developed rapidly, surrounding the fossa with a wall of bony structure, making a cavity from four to five millimeters in depth. The condition of the fossa and development of the lower maxillary bone at this age makes it only a probable chance for establishing a new articulating place for the condyle or a change in the direction of the descending rami by mechanical pressure. It is readily to be seen then that the time for a permanent successful treatment of

all cases when transition of occlusion is involved by the movement of the lower jaw must be made when the shape of the glenoid fossa is favorable for change of articulation of the condyle and when there will be less resistance from the muscles and ligaments. The best time for the movement of the lower jaw, then, is between the ages of six and ten years. Up to the age of ten years every condition is favorable for the movement. After that age, in the great majority of cases, the condition becomes unfavorable on account of



Fig. 3.

the rapid changes in the bony structures and soft tissues. Before the age of ten years the author has found that it is possible to take a case of normal occlusion and change the condition to mesial or distal occlusion temporarily, by changing the point of articulation of the condyle, illustrating the fact that up to this age, on account of the shape of the glenoid fossa and pliability of the ligaments, that a new articulating joint for the condyle can be established as well as a new occlusion for the teeth. However, if the occlusion is mesial or distal and is allowed to remain so until the age of twelve or fourteen years, then the correction becomes probable and a permanent condition can only be made under favorable conditions. It is a universal practice of the medical profession to use mechanical devices

on deformed limbs as early in life as possible, to take advantage of the pliability of the osseous structure at that age, slowly changing



Fig. 4.

the bone by constant pressure. The theory is often advanced that the descending rami are more or less modified by pressure from the



Fig. 5.

use of the chin cap and headgear in moving the lower jaw backward. If this change does take place, it would also be an advantage for early

treatment for reduction of protrusion of the lower jaw, for after the age of twelve years a change of the lower maxillary bone by bending becomes only a possibility.

PROBABLE AGE.

After the age of ten years the bony structure develops and hardens so rapidly that by the age of twelve years, in most cases, the glenoid fossa is almost fully developed in depth and well guarded by walls of osseous structure. Transition from mesial or distal occlusion may be in very favorable cases made between the age of ten and twelve years; but after the age of twelve years, if a change is made, it is a slow, painful process and not always a permanent suc-



Fig. 6.

cess. From about the age of twelve years to later in life, from the result of malocclusion, habits, extraction or wearing down of the teeth, there is a tendency to establish a false position of the condyle on one or both sides. Once established, it usually lasts through life and lays the foundation for easy dislocation of the lower maxilla. The indications are a tendency toward slipping or jerking of the condyle, accompanied by a clicking or cracking noise. This clicking or cracking sensation that is sometimes heard in the glenoid fossa on opening the jaw in mastication, speaking, laughing or yawning, is undoubtedly due to the temporary relaxation of the capsular liga-

ments, which allows the condyle to change its position, and then the ligaments regain their normal position, contracting instantaneously, giving a quick, short action of the condyle.

If the occlusion is slowly changed to mesial or distal occlusion at the age of twelve years or later by habits or the result of extraction, a normal condition may be established by mechanical force, and if due to habits, eliminate the habits; or, if due to extraction, sustain by crown or bridge work. If the condition of mesial or distal occlusion has been established from early age and allowed to remain until the age of twelve or fourteen years and then an attempt made



Fig. 7.

to restore to normal, it must be accompanied with persistent pressure for many months and then perhaps only a slight change is made. If complete transition of the occlusion is made at this age it is only about one out of every fifty that becomes a permanent success, for as soon as the retention is removed, the lower jaw slowly moves back to its former position.

IMPOSSIBLE AGE.

After the age of sixteen years a complete and permanent change in transition of the occlusion the author believes to be almost impossible. There may be a case or two in rare exception, but as a rule the change can not be accomplished successfully, owing to the devel-

opment of the glenoid fossa. Fig. 6 shows the complete development in the adult. By transition of the occlusion the author does not mean changes of the occlusion, as shown in A, Fig. 7, but a transition of occlusion as in B, Fig. 7, where a complete change in the occlusion and facial appearance has taken place.

(To be continued.)

PROSTHETIC DENTISTRY.

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CHAPTER XL.

If we instructed our patrons in the art of using the substitutes we would be accomplishing a great good.

Our crowns and bridges would last longer if we informed patients how to put force upon them. As it is now, practitioners dismiss the patient with the edict, "Do not bite hard on the attachment, as it will not endure under severe stress or strain." The result is that the teeth or roots upon which the case is anchored are jealously guarded, and no jaw force exerted. The roots soon, from disuse and protection, become loose, and the bridge or crown becomes a failure because of professional warning. Better instruct patients to bite naturally, using the normal force, even at the expense of repairing or of constructing new appliances; the patient's appearance is secondary to his health. It may be esthetic to place on a short bicuspid a porcelain crown, and it may be acceptable to caution the patient against eating on that crown; but I hold it better dental service to adjust a well-contoured and accurately fitted gold shell and say to the patron, "Now, use that side of the mouth; eat naturally, and retain your health." Porcelain has its place; porcelain has its mission; but when I find that I can not use bulk and get substantial results, I somehow still hold that the properly formed and carefully adjusted gold molar has merits congenial to the laws of physiology.

The dental profession should not construct appliances which will hinder normal masticatory forces. The action of the jaw, its influence on the osseous and vascular tissues, together with its effect on the six major oral glands, and the innumerable minor ones

secluded in the cheek and mouth, should not be jeopardized to frail and pretty prosthetic substitutes.

Our field of work leads us to give our attention to the minute changes which are constantly going on in the oral cavity. The alterations may be physiological or chemical, and their results may affect the most distant parts of the body. This study belongs to us; we should have the right to advise our patrons regarding their health, provided the mouth or teeth contribute directly to that end. By this means we shall render service along lines in strictest harmony with our training, and tend to give greater importance to one specialty of medicine. If each one would tell his patients these simple and ordinary physiological truths that most of them think they already know, it would make an impression.

In connection with the subject of use and disuse as it relates to the matter under consideration, I am pleased to quote a few statements from the new book of Prof. H. Ellis Foster, entitled "The Human Head and Face," in which the following appear concerning the influence of thought in its relation to development or retrogression of any part of the human economy:

"It is one of the potential laws of nature that every organ must be in perfect harmony in structure and function with every other organ that forms a part of the same organization.

"The tone of facial expression, good or bad, is the impress of mental condition. The face is the canvas upon which is painted in delicate hue the language of intelligence, culture and refinement, as well as in darkest hue the deep lines of the perverted propensities and passions of the human brain."

He makes the following observations, also interesting to practitioners:

"The more perfectly developed and adjusted each bone, muscle and vital organ is to every other organ, the more power, endurance, activity and harmony of temperament. The steam engine that is made of the finest material and constructed on the most perfect scientific lines, will run with less friction, more smoothness, and greater durability than one made from inferior material, poorly constructed and imperfectly adjusted."

If this be true, then the loss of a single tooth may threaten the harmonious arrangement of the entire natural denture, and in

turn lead unto untold physical disturbances. We are learning each day more and more that nature requires every attribute she aims to establish and any deviation we inaugurate against this law brings about loss or retrogressive changes. Professor Foster in his work gives the following generous consideration to the care and nature of the teeth. And evidences of this kind tend to show us that the scientific minds of other fields of research are learning to estimate the importance of good teeth, be they natural or artificial:

"Good, even, white teeth, covered with well formed lips, are features of great beauty. Discolored, protruding, uneven rows of teeth, uncovered by wide, open, thick, coarse, protruding lips, present a most repelling display of the animal man.

"Men can hide an ugly set of teeth and coarse lips with a thick moustache, but women have no such veil with which to conceal an ugly mouth, and a set of uneven, yellow, or brownish-looking teeth.

"The teeth require careful attention to be either conducive to health or beauty.

"Parents are often to blame for not looking after their children's teeth. The health of children depends greatly upon the care and condition of their teeth; and prudent care of the teeth is just as important for the adult as the child. Some teeth are long, and sometimes very large; while others are short, even and regular. Sometimes a grin discloses an even set of pearly, white teeth. Some individuals have over-lapping teeth, incisors and cuspid teeth; a knowledge of such characteristics as are represented in the teeth is most essential to a student of human nature."

(To be continued.)

DENTAL THERAPEUTICS.

BY GEO. W. COOK, B. S., D. D. S., CHICAGO, ILL.,

DEAN AND PROFESSOR OF BACTERIOLOGY AND PATHOLOGY, UNIVERSITY
OF ILLINOIS; PROFESSOR OF ORAL SURGERY, DEARBORN
MEDICAL COLLEGE.

In the discussion of atropine we called attention in the previous issue to some effects that it had on the secretions of saliva. We there stated that the cause of the arrest of secretion in the salivary glands was not due to the action on the glandular cells, but that it caused paralysis of the nerve endings in the secretory glandular substance. The secretions of saliva in the normal animal takes place usually when the nerve impulses reaches the gland cells by one of two paths, namely, the cervical sympathetic, or chorda tympani. If the chorda tympani be divided and an application of the electrodes be made to the severed nerve and a cannula be passed into Wharton's duct, a rapid flow occurs on stimulating the nerve, and ceases when the stimulation is removed. If atropine is injected the stimulation of the nerve will not increase the flow of saliva.

These experiments have been carried on by a number of pharmacologists and all seem to come to the same conclusion, that the atropine causes paralysis of the peripheral secretory apparatus. Many papers published from the hands of the early investigators seem to show that their belief was truly in the hypothesis that the action of this drug was on the gland cells rather than in the nerve endings. The location of the action of atropine on the nerve fibers seems to lie between the ganglion cells on the course of the chorda tympani to the secreting cells. The action, however, is usually confined to certain definite terminations of the nerve endings along the chorda tympani nerve fibers.

It has been pretty conclusively shown that the sympathetic nerve fibers are not paralyzed. Experiments show that when the chorda tympani is stimulated in the normal animal there is increased redness of the glands, accompanied by swelling, a rise of temperature, and the venous blood escapes in spurts very much in the same way as though the blood came directly from the artery. This of course is due to the increased arterial tension brought about by stimulating the

vasodilatory fibers. Thus it would seem from this that atropine acts upon certain secretory fibers of the chorda tympani. The secretion of saliva is produced by certain nerve impulses that pass along the chorda tympani. Thus on the administration of a drug like atropine the paralysis of the select nerve endings in the secreting cells takes place.

All glandular tissue, both of the mucous membrane as well as the sweat glands, readily becomes affected practically in the same way as does the salivary glands. This general statement may be applied only to the gastric juice and possibly not at all to the pancreatic; but the secretions of the pancreas differ very materially from that of the salivary glands. The salivary glands must depend almost entirely upon the activity or rather impulses along certain nerve fibers, while that of the pancreas is not dependent upon the nerve supply of that organ; for it has been shown that the secreting cells of the pancreas continues for some little time after the nerves of that organ have been separated.

The secretions of milk has somewhat the same relations as does the sweat glands, both are affected by nerve impulses more or less. Atropine therefore reduces the secretions by paralyzing the peripheral nerve endings.

The amount of bile is somewhat lessened in quantity by the administration of atropine, and it has been observed that the quantities of bile cannot be increased by stimulating the pneumo-gastric nerve.

The paralyzing influence of atropine on the nerve endings is manifested in many ways. There is a well known experiment to the effect that if you stimulate the sciatic nerve in the dog or cat it will cause perspiration of the feet, and if atropine is administered it will prevent the perspiration of the feet. This is possibly the best illustration of paralysis of the nerve endings.

We have called attention to the fact that atropine is one of the most effectual drugs when it is necessary to arrest the secretion. In renal secretion atropine does not have the effect that is so manifested in other glands. Lymph is not changed qualitatively nor quantitatively by atropine, according to Horbaczewski. The number of leucocytes in the blood are lessened, also the amount of uric acid in the urine is diminished.

We have previously mentioned the fact that all organs containing

unstripped muscular fibers are affected by atropine, thus it will be seen that the heart, stomach, intestines, bladder, uterus, spleen, etc., are more or less affected by this drug. However it will be seen that the nerve endings in the unstripped fibers are affected in the esophagus, while the nerve endings in the striped muscular fibers are but little, if at all, interfered with. It was found by Luchsinger that the paralysis of the vagus termination in the unstripped muscular fibers was more affected than the termination of the sensory nerve endings. One curious fact has been observed and that is, that the motor nerves of the esophagus is affected, and this accounts for the difficulty in swallowing when an animal is poisoned with this drug. This peculiar interference with swallowing has been attributed to the arrested secretions of the mucous membrane, but beyond question it is due more to the paralysis of the motor nerve endings.

The effects of atropine on the pupil of the eye has been the subject of many researches and experimentations by both physiologists and ophthalmologists. It has been shown experimentally that the peculiar action on the pupil of the eye is accomplished by the internal administration practically in the same way that it is when applied locally. The local application of the drug produces paralysis of the motor nerve endings in the circular muscles of the iris.

The question might be asked, is this paralysis due to the action of the drug on the nerve fibers or the muscular fibers?

The statement can be pretty positively made that the effect is on the nerve fibers, because the motor muscles are easily stimulated by an electric current showing that this is produced in the nerve fibers rather than in the muscular. The local action may be demonstrated by the application of small quantities of the drug to one side of the cornea, which will cause dilatation of that side, leaving the other unaffected. When the motor oculi will transmit impulses through the ciliary nerves to the sphincter muscle of the iris, and keeps the pupil moderately contracted until the paralysis of the nerves is complete, the sphincter relaxes and the pupil dilates. However, as just stated, the muscular fibers are in no way directly acted upon except through the nerve endings in the muscle. It is believed by some observers that the sympathetic nerve fibers are stimulated to a more or less degree by the application of the agent.

In rabbit and in man the dilatation of the pupil is sometimes

preceded by a contraction, which is considered to be due to slight irritation setting up a reflex through the sensory nerve endings in the conjunctiva. When the dilatation is complete the pupil ceases to contract when exposed to a bright light. The effects of the drug on the dilatation of the pupil is observed when paralysis has taken place in the muscles of the accommodation, for the simple reason that objects at a distance can be seen as well as ever and sometimes it is thought even better, while objects near by are entirely excluded from the vision. This particularly illustrates the point previously made and that is, that the action is purely through the nerve endings in the motor fibers.

Some writers have believed that the interocular pressure, so-called, is very much increased by the local application of atropine. A question that is frequently discussed is, whether the drug acts directly upon the interocular fluids. This, however, is not a question for us to settle at this time.

We have previously mentioned that atropine has a paralyzing influence on the inhibitory termination of the vagus of the heart. However, it might be stated that if the heart be stimulated through this nerve there is but little change observed in the pulsation of this organ. There are a number of other drugs that act on this nerve in practically the same way, with the exceptions however that they affect the nerve trunk, while atropine affects the nerve endings in the muscular fibers. After paralysis of the ganglia of the vagus electrical stimulation of the venous sinus of the heart pulsations gradually grow slower until it comes to a final standstill. Several drugs stimulate the end of the vagus in the heart where there is no ganglia, and if atropine be applied the normal function of the heart continues, as though these drugs were not present. This again illustrates the fact that atropine only paralyzes the inhibitory nerve endings in the heart.

Atropine has a decidedly different action in different animals; for instance, in the dog the heart's action is very much increased, while in the cat the vagus is less easily acted upon by the drug. This is most likely due to the fact that the vagus in the cat seems to have less irritability than in the dog. In man the age of the individual plays a very considerable role with reference to the effect that is produced. It has been observed that the inhibitory nerve fibers are quite inactive in man at birth, while as age advances the tone of the inhibi-

tory nerves are very much increased up to twenty-five or thirty years of age. From this time on there is a decline in irritability of the inhibitory nerve fibers, consequently atropine does not quicken the heart's action in the new-born, but affects it more and more up to thirty years of age, when it is shown that the decline of tonicity of the inhibitory nerves set in and atropine affects them less and less up to old age, when at an advanced age the effects are very much like those in very early life.

In our discussion of this subject we have shown that the peripheral nerve endings are the first to become affected, and that the effects are first noted in the nerve endings of the unstriped muscular fibers; it then affects the nerve endings in the glandular cell tissue and there establishes the various conditions, such as arrested secretions of all secreting cells. It is an evident fact from all that we have seen that atropine has a peculiar effect upon all substances in which there is a motor nerve fiber.

According to my own clinical experience the application of atropine to an irritated tooth pulp will in the majority of instances arrest the irritation and rapidly bring relief to this organ. This demonstrates that we have in the tooth pulp motor nerve endings in the blood vessels and that it produces very much the same effect there that it does when applied to the iris, with the exception perhaps that in the first effect there is not a stimulation of the sensory nerve endings, but at once causes paralysis of the nerve endings in the pulp tissue with a complete relaxation of the dilated blood vessels, which invariably brings about the relief of pain. Any one who has not tried this treatment will certainly, on the application of atropine to an inflamed pulp, find almost instant relief. However, if the inflammation of the pulp has progressed to the extent that there is wandering out of the blood vessels, the red blood corpuscles, the extent of relief will not be to as satisfactory termination as it would be in the early stages of the process. If one would extract a tooth in the early stages of pulpitis, crack the tooth open at once and remove the pulp intact, and apply atropine before the fibers in the pulp have lost their tonicity, an application of atropine on the pulp when placed on a microscope slide, and viewing its effects upon that tissue under the microscope, he would at once see that the red blood cor-

puscles would instantly stop their movements and the blood vessels would immediately relax.

One might say that this relaxation of the blood vessels was due to the separation of the vessels from their main supply, but on examination of pulp tissue in which the atropine had not been applied would demonstrate the fact that there is no change in the vessels for some little time after the removal of the pulp. These are facts that can easily be demonstrated by any one who wishes to try such an experiment. Up to the present time there has been but little attempt on the part of the dental profession to use any of the alkaloids in these conditions.

(To be continued.)

TREATMENT OF PYORRHEA.

First inject into the pockets a few drops of a 15 per cent solution of cocain until the issues are anesthetized; then with a set of Young's pyorrhea instruments, as revised by Dr. Good, I go up, if necessary, to the end of the roots, being careful to remove perfectly all of the calcareous deposits at the first sitting, and when I am satisfied there is nothing left, I polish carefully and inject into the pockets a few drops of pure lactic acid two or three times a week until results are produced, which is slow in some cases, but always sure. I then instruct the patient carefully as to the correct way to brush the teeth and gums. To say the least of it, I believe and hope I am effecting cures along this line.—*Dr. J. H. Nicholson, Era.*

A GOOD LINIMENT.

R	Glacial acetic acid	a a 3 j
	Oil of turpentine	a a 5 j
	Yolk of one egg.	
	Water q. s. ad.....	3 viij

Mix oil of turpentine, yolk of egg and acetic acid by shaking vigorously together. To the resultant emulsion add the water, a little at a time, shaking well after each addition.

Of course, this must not be used on inflamed surfaces.—*Gazette.*

OPERATIVE DENTISTRY.

A Series of Shop Talks.

BY R. B. TULLER, D. D. S.

CLINICAL PROFESSOR OF OPERATIVE DENTISTRY, CHICAGO COLLEGE OF
DENTAL SURGERY.

No. IX.

EXPERIENCES IN MODELLING COMPOUND.

It has been stated by many eminent practitioners that accurate impressions can only be made by the use of plaster. No one questions but what plaster, when properly handled, will take accurate impressions, and there is no doubt but what it should be used in many instances in preference to modelling compound. It is a good rule, probably, to use that with which the operator by his knowledge and experience can get the best results. It is, I think, inconsistent to claim that the one or the other is best in all cases. My plea is for modelling compound in a good many cases. In fact in my practice I rarely use plaster, first because I get satisfactory results without it, again because the peculiarities of modelling compound, handled properly, make it better than plaster in some cases, and further, does not make the muss that plaster does and is not so distasteful to the patient. And still further the separation of the model from the impression is much easier.

The trouble with many in using modelling compound is that their method and manipulation is not such as to get best results.

In the first place, modelling compound should never be heated beyond what is necessary to properly manipulate it. When moldable the proper amount should be placed in the cup, previously selected of course as suitable to the case. Then the compound should be freshly warmed (not broiled) over a flame, and made perfectly smooth by gentle pressure with the fingers eliminating every fold and wrinkle, and giving a shape to the surface corresponding, somewhat, to the outlines of the roof of the mouth; that is, depressed slightly where the alveolar ridge is to come in contact, and left higher in the middle and around the sides, and especially where the canine fossa is to

be reached. The outline of the cup usually is something of a guide.

In this preliminary work the compound has, no doubt, become cooled and is too hard to take a good impression. If it is not, it should be allowed to get a little stiff. Now instead of plunging the whole thing into hot water again to soften it, turn it upside down, and heat *gently* over a large gas or alcohol flame. The thing we desire to accomplish is this: To have the surface softer than the interior; or, in other words, have the compound graded as to plasticity from warm at the cup to hot as the mouth will bear at the surface. What happens then, when the cup is placed in the mouth, is that the stiffer material behind presses the softer with more accuracy into every inequality it comes in contact with.

The tendency with wax or compounds in taking impressions is to curl outwardly or away from the jaw, and especially if the cup does not fit closely, or does not come up high enough at the edges. A very little pressure on the lips and cheeks is advisable sometimes to correct this, after the cup has been carried up as far as desired.

An impression taken in this way not only avoids distortion that too often occurs when the mass is all heated through alike, but becomes cool enough to remove in a much shorter space of time. Cooling may be accomplished quickly, where one has a siphon saliva ejector, by putting that in operation and then with syringe drive a small cold stream of water against the cup all over its entire exposed surface in the mouth, not forcing in faster than the siphon will carry off.

When the impression is removed it should be washed in cold water, and is then ready to pour the model.

Now, when a plaster impression is taken it is so soft that when carried to place it does not materially press back any soft tissue it comes in contact with, and that is sometimes desirable. But usually we take our models from plaster impressions, and scrape away parts corresponding to soft spots in the mouth, particularly on either side of the central hard ridge in the roof of the mouth posteriorly. This has been found necessary, in most cases, to make the plate fit up with snug suction.

Now, modelling compound, even when very soft, is yet stiff enough to push back these soft parts in just about the proper way

to make plates fit without scraping model as above alluded to, and really with better adaptation.

We sometimes find soft spots in the alveolar ridge and especially anteriorly. It is not an unusual thing to find flabby pieces of gum anteriorly hanging like a soft lip. It interferes with the fit of a plate in many instances, and often has to be excised. But if not too pronounced, the modelling compound impression will fold and press that lip back, and the plate made from such an impression will do the same, and rest firmly and not in a cushioned sort of way.

Coming to partial impressions, we must determine whether modelling compound will draw away without serious distortion. Of course no material will draw directly from a dovetail space, nor from bell shaped teeth without fracturing or distorting. While it is understood that we can not make a rigid denture pass into a dovetail space and fit it, it is desirable to have an accurate model of the exact conditions, and then we can make our denture with the least discrepancy possible, and take advantage of any peculiar twist or turn that may permit of adjustment not possible in a direct way.

In such cases plaster impressions taken in such a way that the cup either divides, or can be taken away and the plaster, when hard enough can be broken away inwardly and outwardly, has qualities, that of fracturing so that the pieces may be put together again, which modelling compound or wax does not have.

In some cases, however, not involving an extended denture, I have been able to utilize modelling compound quickly and satisfactorily, by taking a lingual surface impression with some sheet copper for a cup bent to suit the case, removing hardening and oiling and then replacing, and then with another strip of copper adapted to the buccal, take a modelling compound impression there. The two halves will fit together if done right, and a good model can be made.

Modelling compound has its place and a very important one, in dentistry. I have been able to get impressions with it where plaster, preferred, could not be tolerated at all by patient.

With plaster there is always the danger, with a nervous and often gagging patient, of getting a crumbled piece of plaster into the patient's windpipe; and it would not be the first incident of that kind on record. I think some deaths have been recorded from such

an accident. Anyway, to guard against such a danger, the body and head of the patient should be pitched well forward as soon as the cup has been carried to place.

In these later days there are other impressions to be taken than those for plate work; namely, inlay work, or the impressions of cavities to be utilized in making restorations of gold or porcelain for individual teeth; and here again modelling compound or something of that nature comes into play, while plaster is not applicable.

The same principle holds good about the manner of heating, in taking these impressions, as in taking full ones; that is, have a harder center or back to push forward the softer parts of the same. In this work gutta percha, perhaps, is used more than the compound, but the principle is the same. The material selected should be molded into a cone. When formed suitable for the cavity in hand, warm the tip cautiously half way up, and not the whole cone. Leaving the base pretty solid or only slightly warm provides the best kind of a pusher to make the soft part go to every minute inequality of the cavity walls.

Inlays can be used to better advantage, often, than any other material to fill cavities that extend more or less seriously beyond the gum. Inlays can be put into broken down molar cavities, many times, that we not long ago said that nothing but amalgam can be used in.

First the cavity must be prepared and packed very hard with gutta percha, extending over the margins all around, especially where they dip under the gum, in order to, in the course of a few hours, push the gum away to permit of an accurate impression of all margins as well as the interior of cavity.

With such an impression, from which a die can be made, a gold or porcelain inlay can be made that will fit and do better service than any other kind of filling; for the reason that finishing of anything else at the under gum margin is prohibited by the unfavorable conditions. Moldable porcelain, described in a previous chapter, is excellent for this in molar restorations.

(To be continued.)

ORIGINAL CONTRIBUTIONS

TOOTHsome TOPICS.

BY R. B. TULLER.

What is Reputation?

Huh! that's easy.

But suppose we put it: What is "reputation"?

There's a difference; one has a big R.

Reputation is all O. K. It comes by good plain, honest endeavor, and is what is quite universally said about you. It is the real thing.

You have a Reputation and perhaps a "reputation."

We will say reputation in the usual way without quotation marks. Now let's see.

Where did you get it?

How?

How wide is it?

How long?

What's the depth?

What's the thickness?

What's the warp?

What's the woof?

Does it wear well?

What's it worth?

And then, perhaps, we might ask, What's the use?

There are Reputations and reputations and "reputations."

But you know that the breeze off some "reputations" would singe a cat.

The breeze off some "reputations" would freeze a dog.

The breeze off some wouldn't turn a dry leaf, nor flutter a green one.

The breeze off some would give one the bel—I mean the colic.

The question is, when you come to die, where do you get off?

Huh?

Well, never mind; you can't answer, and you needn't get red in the face. No doubt your obituary will read pretty well and your death notice, written by friends—if you have any—will presume that you ascend.

When I read obituaries I can't help thinking what an *immense* lot of *good* people there are in the world that are all the time going out. And yet a good many of them go to hell just the same,—according to the orthodox code.

I'm a little inclined to be optimistic myself, and feel that hell may not be so bad as it is usually pictured, when so many good ones evidently go there. Bad in spots, no doubt, like our city; but I shall endeavor to avoid the spots.

Listen:

A gentleman told me this story—or, was it a “pipe”?

“Once there was a man who died and took the Up elevator, with an average good supply of *Tribune* and *Daily News* passports. The paid death notices even had some very sanguine statements attached in verse, like this:

“Dearest Bildod, you hast left us,
And our hearts are filled with pain;
We'll not know why thou'rt bereft us,
'Til we meet in heaven again.’”
“‘Gone, but not forgotten.’”
“‘None knew him but to love him.’”

(I am not responsible for the originality. I copy from the papers verbatim et literatim. Just a sample.)

“Over in another column is another item telling how respected and esteemed he was, or is now, dead, and what an irreparable hole he left in his community.

“The passports seemed pretty good to a casual observer; but, when Bildod got to the Golden Gates there was a halt. A very aged old gentleman peering with very keen eyes from a wicket, said:

“‘Just a moment please. Your credentials. From Chicago. Hum-m! We'll just check up a little with our records. We get, *occasionally*, some very good ones from Chicago. A good many, however, turn instinctively to the left and take the toboggan before

they get here. Some, who know better, persist in coming up to the gate, and put me to the bother of sending them down again.

"Yes, your passports look pretty well—read real good, Mr. President. You are, or were, president of something down there I see. Some of these passports are good to leave with, but not always so good to *arrive* with. They don't all tally with the records here.

"Well, to begin with, you were not a real, first class, good boy; though you always said "Yes, ma'am" with a perfect imitation of innocence, when questioned about it by your Sunday school teacher; and especially just before X—but we'll pass all that. I see a good many blue marks later when you were more responsible.

"I note that you were a professional man? Our record says, "Got through on ponies—without much real merit. Great pretender."

"Then you began practice by advertising. That's no crime; but did you make any pretense to do as you advertised? Didn't you run, what people call down there, a skin game? Oh, you reformed—after you got well started in practice? I see. But it looks to me that you then took other ways of advertising where you didn't have to so directly pay the freight, as you folks say.

"No, that's not criminal, of course; but it is not looked upon as highly upright, dignified and honorable in this court; and a reflection of your conscience here, shows you knew that well enough.

"But, we'll go on. What's this? Ran in debt for clothes and all sorts of things to make a fine appearance and forgot to pay. Cheap skate? Is that it?

"And here's where you joined the church. That's the right thing, if genuine. Your conscience says it told you you were simply doing it for selfish motives. Looks like you were a hypocrite. That is a microbe that is hard to kill out.

"Let's see; you married one of the church girls. You were not faithful to her, but she made you a good faithful, conscientious wife. She bore you children. But you saw another face younger and fairer and susceptible to your blandishments. You trumped up a charge against that faithful wife and mother of your children, *knowing* there was not a blemish against her character or good name—except what you manufactured; and you put her away. She died of a broken heart. She is here. Would you like to meet her? And you? You married again in two weeks.

"I don't see these things mentioned in your passports. No, of course you are not the only one. There are others. But—*they do not enter here.*

"Well, you didn't treat No. 2 much better than No. 1, and you've got a third. Some people down in your sublunary sphere seem to think that the marriage vow is of no account—on your side—and when you tire of one wife just throw her over, perhaps throw her down as well as over, as you did, and get another; having that other in tow for some time before your queer courts set prior ones at naught.

"This passport looks like you managed to hold up your head, and to hold some sort of grip in respectable society. Did money help? It don't help with some good people. You found that out. Still you had somebody who was kind enough to write you up as a creditable citizen, etc., etc., and the real facts don't look nice for a corpse.

"Well, here's a long list of shortcomings for a man who professed to be square and upright. But look at this blue page! Say, by your code it is a state's prison offense; but it is not really worse, nor so bad, as what we have gone over—breaking the loving heart of a true wife and devoted mother.

Oh, no, you weren't convicted. No. You turned state's evidence and sent the others down. You escaped punishment; but you held the bag, and kept it. Then you sought for and got, through the aid of some friends, a dose of whitewash which pretty safely hid your imperfections. The friends had reason later to sorely regret their kind offices. You didn't appreciate it. You used it as a cloak to go on and do more discreditable things, if not criminal. You had the nerve then to jump in and win glory—glory as you looked at it among men. Your passport don't tell about these blots on your record. But they refer to the *offices* and *titles* you won; by intrigue and shady methods. You never won anything by sterling worth and honest endeavor. You have been so successful in your chicanery with men that you really had the assurance to come up here and try to get into Paradise.

"You are sorry now. You would like to repent. You had years of good chances down there on Earth. It is too late now. You lived a Hyde-Jekyll sort of a life. You never had Reputation; you

just had "reputation" and nothing to brag of at that. You are a real 'dead one' now.

"Take your credentials and the elevator down. Red light. Step aside, please, I see some worthy people coming. Good day."

"Well, you see, there wasn't anything else to do, and the atmosphere outside was dangerously chilly. No standing around. It is either get in—or get out! Four-flushing don't go. 'reputation' don't go. Money—well there are no pockets in a shroud, and no good if there was."

It is simply, What's the Use?

This "reputation" with a small r—say, most of us have got some. Some of us put it on our cards; or hitch the whole thing on behind in Polk's Directory at the subscription price and \$2.00 extra.

There is a good deal of tendency to the small r in reputation such as above noted; or, may be emblazoned on reprints from papers read and published somewhere some how—how? Some of us write for journals and hitch it on.

You have seen it just like this below, and it is kind of peacocky. Haven't we got a little peacock strain in us?

By G. Aze Onme, M. D., D. D. S., M. A., B. A., X. Y. Z. (M-u-t), Member of the International Congress; the National This; the National That; the National T'other, and President of the same; member of the State Society; the North East; the North West; the South East; the South West; and the Middle States; (ex-president of a number); Supreme Grand Adornment of the Ski Hi Flies or Bete Noirs; member of the Interstate Brotherhood, and Professor of Pyorrhea in the great Twentieth Century Dental College; Professor of Alveolar Abscesses in the O. P. Medical College, Post-graduate of Seven European Tours, including the acquirement of some real bronze and rolled gold plate badges, gilded near-silk ribbons with safety pins, etc., etc.

Such is fame!

What's the Use?

SOMNOFORME IN MINOR SURGERY.

BY NOBLE M. EBERHART, M. S., M. D.,

ATTENDING SURGEON AND DIRECTOR OF X-RAY LABORATORY, FRANCES
WILLARD HOSPITAL; PROFESSOR AND HEAD OF DEPARTMENT
OF ELECTRO-THERAPY, AMERICAN COLLEGE OF MEDICINE AND SURGERY, ETC.

There are many minor operations in which the most serious point for consideration is the anaesthetic to be administered.

This is true from the standpoint of both the surgeon and the patient.

The latter dreads to take chloroform or ether and frequently puts off having an operation on that account, especially as it usually means going to a hospital.

On the other hand, the doctor hesitates to subject the patient to an anaesthetic which is more dangerous than the operation.

My attention having been called to somnoform through its use in dental surgery, I could at once appreciate how useful it might prove in sundry minor operations.

Its advantages as presented to me were:

1. Ease of administration; no choking or suffocating attending its inhalation.

2. Rapidity of action, averaging about one-half minute.

3. Safety. Death rate 1 in 500,000.

4. Absence of serious or prolonged after-effects.

5. Quick recovery without shock and ability to leave almost immediately as far as anaesthetic is concerned.

6. Convenience. May be administered at office or house; requires no preliminary preparation; is not contra-indicated by heart or respiratory lesions.

I tried it myself and found after three full inhalations a heavy natural sleep stealing over me; recovering immediately with no annoying symptoms whatever.

On another occasion I took it for the extraction of the root of a third molar, and the easy and pleasant induction of sleep, the com-

pleteness of the anaesthesia, and the quick return to consciousness without unpleasant effects strengthened my already high opinion of somnoform.

I have used it as occasion offered and report herewith the results in a number of operations.

Somnoform is a general anaesthetic composed of ethyl chloride, 60 per cent; methyl chloride, 35 per cent; ethyl bromide, 5 per cent.

Dr. Paden* who administered all of my anaesthetics has given a very thorough consideration of its properties and uses in his paper read before the Chicago Medical Society, April 11, 1906.

I will therefore proceed to narrate my experiences with it.

CASE I.

Man of 37. Hemorrhoids. Operated on two years before under chloroform. Was afraid to administer it again on account of an organic heart lesion. He was under somnoform about ten minutes, becoming thoroughly anaesthetized in eight or nine inhalations. No trouble was experienced and he regained consciousness immediately with no feeling of nausea and experienced no unpleasant after-effects whatever.

CASE II.

Case of hemorrhoids in a young man of 25; neurotic; who refused to take chloroform or ether, which he had taken upon a previous occasion for circumcision. He was under somnoform 15 minutes, taking the anaesthetic nicely and experiencing no after-effects except a slight headache.

CASE III.

Removal of a needle from a woman's foot. The patient was very nervous and became slightly hysterical at the time anaesthetic was administered. She was soon asleep and remained thoroughly anaesthetized about 15 minutes, while I made a deep incision in the bottom of the foot and removed the needle, which was well up between the second and third metatarsal bones. Coming out of the anaesthetic she vomited twice, but then felt all right and left the office in an hour.

* American Dental Journal, May, 1906.

CASE IV.

Case of fistula in ano in a man of 45. No trouble was experienced in administering the anaesthetic. Patient was nervous and said he could feel his heart pounding and could see and hear part of the time, but felt nothing. He experienced no unpleasant after-effects and left the office in a short time.

CASE V.

Opening an infected wound in the thumb. Under anaesthetic three minutes. She took it readily and experienced no unpleasant after-effects, leaving office in ten minutes.

CASE VI.

Large, robust man of 37. Passing of sounds for rapid divulsion of urethral stricture. He required a large amount of somnoform to anaesthetize as he also would have required of chloroform or ether. The divulsion brought him to, so that he struggled and it became necessary to let him entirely regain consciousness; when he readily consented to take the anaesthetic again for the completion of the operation. He was under ten minutes the first time and said he felt all right but dreamed of struggling with a man. The second time he was under about eight minutes, being completely anaesthetized and recovering without any disagreeable after results; leaving office in fifteen or twenty minutes.

CASE VII.

Man of 30; neurotic. Operation; slitting of meatus and divulsion of urethra. Took the somnoform quietly, but vomited very freely on coming to, but only once, recovering quickly enough to get up and help clean up the muss. He had eaten a very full breakfast shortly before. Divulsion brought him out of the anaesthetic.

CASE VIII.

Slitting of meatus. Ordinarily the slitting of the meatus is too trifling a matter to call for the administration of any anaesthetic, but in some extremely nervous individuals and in some cases where a second and third cut may be needed, it is certainly convenient to have a patient completely anaesthetized; especially when it can be done as easily and quickly as with somnoform. In this case the anaesthetic was taken quietly and there were no after-effects.

CASE IX.

A boy of 12 years was brought to me with a rifle bullet in his left hand. I located the bullet with the fluoroscope and took a skiagraph for the attending physician. The boy was then taken home and chloroformed and free incision made, but bullet was not found. Accordingly, a few days later he was brought to the office and was given somnoform and by the use of the fluoroscope, which enabled me to see both bullet and forceps, I was able to extract it easily in two or three minutes. The boy vomited after regaining consciousness, which was presumably due to getting too much of the somnoform as it was administered in the dark and the anaesthetician could not see how much he introduced into the inhaler each time.

CASE X.

Another case of slitting of meatus. Anaesthetic taken quietly and no after-effects.

CASE XI.

Denuding clitoris. Patient a very nervous and hysterical woman. Took the anaesthetic nicely, but vomited on recovering and slept for over an hour afterwards on the operating table, rousing when spoken to and immediately going to sleep again.

CASE XII.

Woman of 47. Took anaesthetic nicely and remained under it about seven minutes while I removed with the electro-cautery a suspicious growth on the cervix uteri. No nausea or any distressing symptoms.

CASE XIII.

Boy six and one-half months old. Circumcised under somnoform anaesthesia. No unpleasant symptoms.

CASE XIV.

Slitting of meatus and passing of sounds. No unpleasant effects.

From the foregoing it will appear that ordinarily no unpleasant effects attend the administration of somnoform, but occasionally headache and nausea are present.

Where nausea occurred in my cases it was not lasting.

Patients exhibit idiosyncrasies toward somnoform just as they do toward other anaesthetics.

I have superficially classified various operations into suitable and unsuitable ones for somnoform anaesthesia.

SUITABLE CASES.

1. Removal of tonsils, uvula, adenoids, and some other throat and nose operations.

2. Operations for bubo and many cases of removal of cervical glands, where latter are superficial and not too numerous.

3. Removal of small tumors such as dermoid cysts; moles; warts; small lipomas and fibromas, etc.

4. Removal of needles, bullets, splinters, etc., from accessible parts, especially from extremities.

5. Circumcisions; denuding of clitoris; many cases of hemorrhoids; slitting of meatus; lancing of boils, abscesses, etc.; opening and drainage of infected wounds, etc.; ingrowing nails, etc.

6. Opening pelvic abscesses for vaginal drainage.

7. Excising small epitheliomas.

8. Amputation of fingers or toes.

9. Reduction of some dislocations and in cases of compound or comminuted fractures.

10. Stitching up minor wounds.

11. Reduction of strangulated hernia.

UNSUITABLE CASES.

1. Not suited to operations requiring over fifteen or twenty minutes to perform.

2. Not suited to operations on vital parts, or where serious inconvenience would result from patient coming to in midst of operation.

3. Not suitable for rapid divulsion of urethra or rectum.

4. Not suitable in some eye operations (as in iridectomy), where very profound anaesthesia is required.

I decry the unreasonable stand taken by some dentists who try to alarm the profession by exaggerating the danger from somnoform.

Present statistics indicate that the death rate is one in half a million; but were it one in 25,000 as with nitrous oxide it would still commend itself on account of its other advantages.

PROCEEDINGS OF SOCIETIES

PRESIDENT'S ADDRESS, 1906, HAMMOND, IND.

BY OTTO W. KING, HUNTINGTON, IND

Gentlemen of the Northern Indiana and its Visitors—It affords me very great pleasure to welcome you this morning to this eighteenth annual meeting of the Northern Indiana Dental Society, and as it becomes my pleasant duty, through your friendly courtesy, to preside over this meeting, I do want to assure you that I am profoundly grateful for the honor you have conferred upon me.

From experience, however, I have learned that with all such honors, comes increased duties and responsibilities, and I trust that I shall have your indulgence in my shortcomings, and your hearty co-operation in my endeavors to give this meeting the high place it deserves.

For any measure of success this meeting obtains, or profit the members derive from it, the various officers and executive committee deserves credit, as they have worked earnestly (and against great difficulties) to this end, and I desire to offer them my personal thanks for their efforts and the unvarying courtesy and good will they have shown.

The growth of this society during the last few years has been remarkable, attributed, I think, largely to the hard work that has been done by its officers, and to that "family spirit" that has existed in all its gatherings, which makes one feel at home; in fact the society has emphasized the efforts of its individual members, without which enthusiasm our meetings can not receive their full measure of success.

But let us not forget, as we recall the results of our achieve-

* Read before the Northern Indiana Dental Society at Hammond, September 18-19.

ments, those who organized and worked in the beginning for the success of this society. Turning back over the records I find that this society was organized in Fort Wayne, and the following was the first business transacted:

"Fort Wayne, Ind., May 1, 1889.—Be it remembered that the dentists of Northern Indiana meet in Odd Fellows Hall, Fort Wayne, Ind., Wednesday, May 1, 1889, to organize the Northern Indiana Auxiliary Dental Society pursuant to action taken by the State Association at its last meeting."

CHARTER MEMBERS.

Those that attended the first meeting, and would be considered charter members, were (as I have ascertained from the records and from two of the members that attended this meeting), S. B. Hartman, W. Shryock, J. S. McCurdy, S. B. Brown, J. D. Coyle, J. E. Waugh, D. D. Wisel, of Fort Wayne; T. E. Goodwin, Warsaw; J. M. Teal, Kendallville; T. E. Bell, Hammond; S. T. Kirk, Kokomo.

At this meeting the following officers were elected: J. M. Teal, Kendallville, president; T. A. Goodwin, Warsaw, vice-president; J. E. Waugh, Fort Wayne, secretary-treasurer; executive committee, S. B. Hartman, Ft. Wayne; T. A. Goodwin, Warsaw, and J. E. Waugh, Ft. Wayne. Some of the first sessions were held in the offices of dentists of Northern Indiana.

The presidents to serve the society in the order of their election were as follows: J. M. Teal, Kendallville; B. P. McDonald, Goshen; E. J. Church, Laporte; J. E. Waugh, Ft. Wayne; A. Gants, Ligonier; S. M. Cummins, Elkhart; E. J. Church, Laporte; J. M. Teal, Kendallville; S. B. Brown, Ft. Wayne (deceased); J. F. Werner, Elkhart; C. G. Keehn, Ligonier; T. A. Goodwin, Warsaw; W. O. Vallette, Goshen; F. G. Conklin, South Bend; M. A. Payne, Wabash; S. B. Hartman, Ft. Wayne; J. A. Stockley, South Bend; and Otto U. King, Huntington.

Part of the time the meetings have been held twice a year. Beginning with the first meeting held in Fort Wayne in 1889 meetings have been held as follows: Rome City in 1890; Warsaw in fall of same year (1890); Plymouth in spring of 1891; Rome City in fall of 1891; Warsaw in 1892; Elkhart in 1893; South Bend in 1894; Laporte in 1895; Kendallville in 1896; Benton Harbor, Mich., in

1897; Elkhart in 1898; Warsaw in 1899; St. Joseph, Mich., in 1900; Goshen in 1901 (at the latter five places meetings were held in connection with the South Western Michigan Society); South Bend in 1902; Wabash in 1903; Huntington in 1904; Logansport in 1905; Hammond in 1906.

While the Northern Indiana is an auxiliary to the State Association, it is a more liberal organization than the mother society, in that it does not ask its members to comply with a code of ethics, but invites one and all alike to attend and participate in the proceedings. The expenses of the meeting are defrayed by donations of the dentists and exhibitors.

There are some changes that I would like to suggest in our methods of doing business, but for fear of embarrassing the committee on constitution and by-laws I will refrain; however, I will say that the office of secretary and treasurer should be separated, and the treasurer held responsible for the financial success of the meetings.

The officers of this society should be the very best men from Northern Indiana, regardless of their location; this society can not afford to establish the precedent of electing a secretary simply because he resides in the city in which the convention is held. This would exclude from our officers some of the best qualified dentists in the society because they happen to live in a town too small to entertain the meeting.

Now, gentlemen, the meeting is yours and I hope you will all feel free to take part in any discussion you may desire, and I trust that you may be abundantly repaid for suspending your office duties to attend this meeting.

On behalf of the officers and members of this society I take this opportunity to express our gratitude to the essayists and clinicians from adjoining states, as well as all others for their contributions to the program.

Let us all in the future emphasize the value of individual effort, and if at any time you can contribute to the program you will thereby benefit others as well as possibly gaining some inspiration for yourself.

In conclusion, I wish to pledge my support anew to any part of the work which will further the interests of this society in its onward march.

Gentlemen, I thank you.

ABSTRACTS AND SELECTIONS

THE GINGIVAL BORDER.

BY JOHN D. PATTERSON, D. D. S., KANSAS CITY.

Mr. Dean, Mr. President of the Alumni Association, Ladies and Gentlemen: I am glad to be here today—I feel that I am among friends. You have perhaps heard said:

“Never a star was launched but its fine rays
Took some small shade of darkness from the night,
The little stream that sings amid the ferns
Brings welcome increase to the ocean’s might.”

So I come to you today bringing my mite for the general good, and trusting that something I may say will benefit some one in the audience.

The anatomy of the gingival border of the oral mucous membrane; its functions, its diseases, their etiology, their diagnosis, their prognosis, and their treatment, is a subject of absorbing interest, for it is so well known that gingival diseases, when uncontrolled, often result finally in the loss of teeth. It therefore becomes a matter of moment that the dental practitioner shall have knowledge regarding these diseases, be informed as to preventive treatment, and informed as to curative treatment.

To this audience it is superfluous to rehearse minutely the anatomy of the gingival border, for it is so well known; suffice it to say, that the subepithelial tissue, the dental ligament, the gingival tissue and the epithelial covering of that tissue are all continuous with the pericemental tissue, and the periosteum, and that in health the gingival border is strongly attached to the cervix of each tooth by fibrous tissue, leaving only a very superficial free margin unattached. Considering the very intimate and continuous connections of these structures, and appreciating that if a lesion exists, the life of the entire tissue and the organ it surrounds—the tooth—is menaced, it surely

demands that our utmost exertions should be put forth for its conservation and restoration, and especially that our operative procedures should not originate irritations to prejudice the same.

In considering the subject I must disclaim any idea of completeness in its treatment. I will simply touch upon points in which I have been especially interested, and give results of clinical observation. I am aware that I may, upon one or two themes, antagonize accepted theories and accepted practice, but at the outset declare that I am not making any statement without due consideration, or with the purpose alone of provoking discussion.

Study, experience and observation have taught us that the gingival border is long-suffering and in health its dense covering of squamous epithelium makes it impervious to abrasion in the act of mastication; but when irritated and inflamed it becomes extremely sensitive, and when destroyed—cut, severed, severely *torn*—unduly stretched or strained by continued force, is rarely restored to its normal condition, and if new tissue takes the place of that destroyed, the fibrous rope-like border gives place to repair tissue which is tender, does not serve as a satisfactory cushion, rapidly recedes, and is wholly unnatural. The future must eliminate, so far as possible, diseases of this tissue, whether caused by systemic conditions, by lax sanitation, or by operative procedures, else our profession will be weighed and found wanting respecting this border. We often see it stated that in our day a greater number of teeth are lost through diseases of the tissues surrounding the tooth than through caries. The careful observer, we think, will not combat the statement. It is a true one, and if we are confronted with the fact that these diseases have their inception at the gingival border, and do not progress without a loss of function in that border, we at once see how positive is the call upon us to maintain at all hazards the integrity of that tissue.

After understanding the anatomy and physiology of these tissues, it is necessary that we understand something of the etiology of their diseases.

Much research has been carried on by pathologists, especially in our profession. Many radical claims have been made respecting systemic causation, and also for local causes. Many classifications have been given, differentiating systemic causes, and differentiating these from local etiological factors. In fact, the etiologic gamut in these

troubles has been sounded by different writers until it has embraced well nigh all bodily lesions—whether systemic or local, predisposing or exciting, bacterial or climatic, scientific or empirical—as causative. The grave and positive statement that all advanced cases of ulitis are due to the uric acid diathesis is met by the equally positive statement that the origin is in the syphilitic condition. In turn comes the bacteriologist who, knowing the widespread and devastating effect of the army of parasites, insists that the origin must be from a specific micro-organism.

The student is so surrounded by learned observations, and hears that without systemic treatment a cure of these diseases can not be effected, that he too often folds his hands and says “incurable.” The advocates of systemic causes have thus brought about incalculable injury and might well cry “peccavi” when they see the dental organs perish through a disbelief in the efficacy of local treatment brought about through their teachings.

The attention of the student and the profession is diverted from the point where the disease manifestation first appears—the gingival border. But then I hear some in my audience saying, Is this true? You may say some prominent teachers are asserting that teeth are loose and lost—their surroundings deprived of their function with the precipitation or presence of calcareous deposits at the apical territory, and yet the gingival border remain intact, or intact until advanced stages of the disease. These statements I am personally convinced (to use a familiar expression) “should be accompanied by a search warrant.” When it was first put forth it greatly impressed the writer, and being engaged much in the care of the gums, I diligently investigated clinically hundreds of cases, and am still doing so, and not in one single instance has there been found destruction of the investing tissue or plaques of calcic matter about the tooth, with the gingival border intact, save in abuses from pulp degenerations. In the gingival border, then, we must look for some lesion ere the destructive processes so well known and so variously named are present.

The question now arises, Are there not systemic conditions, constitutional or acquired, from which ulitis arises without local excitants? We are taught that gingival margins become affected in anemic conditions, with the administration of certain therapeutical agents, notably mercury and iodide of potassium, and especially is it *positively* stated, and generally believed, that when a condition known

as "salivation" is brought about through the administration of mercury there is "mercurial stomatitis" from the medicinal effect alone. Let us for a moment analyze the condition known as "salivation" or "ptyalism." Mercury is given in its various forms as an alterative, sialagogue, purgative, diuretic or antiseptic. Usually when salivation is noticed in the mouth it has been caused by minute and continued doses of the bichloride, protiodide, or calomel.

Salivation is simply an unusual and abnormal flow of saliva, and when caused by mercury is due to the thinning of the blood. It impoverishes it by destroying the hematin and globulin. In this condition its fluidity is increased, and the secretions become abundant, notably the salivary secretions. Now let us inquire how this condition of the circulation causes gingivitis, *per se*. What irritant is brought to the tissue by the medicine? We daily use mercurial solutions as mouth washes; in all aphthous conditions of the oral cavity it has no superior. Stomatitis rapidly improves and disappears with its use. Then, how is it that mercury given as an alterative and an antidote for blood poisons is guilty of causing gingivitis? In the opinion of the writer it is "not guilty." We have been accustomed to this hoary cause for inflammation at the gingival border, because *we have not thought to question it*. The belief has come down to us from the known results of enormous doses of mercury which were poisonous and destructive, but which have not been prescribed for fifty years. "Hydrargyris" predisposes the tissue to irritation, but unless local irritation is present we do not believe gingivitis presents. The enormous flow of saliva of an abnormal composition which easily putrefies and rapidly decomposes and ferments, and the unusual desquamation of epithelial scales presents a condition requiring extra care, while it receives less. So the function of the border is interfered with by local conditions in addition to calcic deposits, and it cries out. If perfect mouth sanitation were kept up I believe so-called "mercurial stomatitis" would not be seen. I have had scores of cases, said by physicians and patients to be "mercurial stomatitis," resulting from salivation, and have yet to see one case where a rapid cure did not come when deposits were removed from the necks of the teeth and other local conditions corrected without cessation of the administration of mercurials. The same may be said regarding iodide of potassium, and in the condition known as "iodism" the mouth requires greater care and receives less than usual. If those in the audience who are interested enough to

make experiment will arrange with specialists who are constantly placing patients in the condition known as "mercurialism" to send such patients to them if the gums are affected, and will thoroughly remove all calcic irritation, polish the cervical portions of the teeth, and correct unhygienic conditions, they will find the mercurial stomatitis disappears as if by magic, whether the drug is discontinued or not. We now come to this proposition: That *any factor* that produces lesions in the gingival border is causative of deeper injury, and may ultimately result in the exfoliation of the teeth, and that such irritation arises from calcareous deposits and other irritant local conditions almost invariably; that such results as the loss and the continuation of the disease of teeth may come *without* predisposing systemic influences, be they hereditary or acquired. Gingival inflammation exhibits, like all inflammations, exudations and the production of pus; and whenever this is present the calcic matter continually present in exudations is precipitated in convenient places. "*This occurs in all tissues of the body.*"

I now quote from a paper I had the honor to read before the American Dental Association in 1888, these extracts which were taken from the Hand Book of the Medical Sciences, Vol. 1, p. 743, viz.: "*Calcification consists in the abnormal deposit of earthy matter in or around the elements of a tissue, or in the morbid product of a pre-existing inflammatory process.*" "*Calcification rarely, if ever, depends solely upon general causes; there is always a local influence. Very often it is due to a pre-existing chronic inflammation.*" After this quotation in the paper referred to I said: "With these facts before us does the presence of deposits in pyorrhea alveolaris still surprise us, and must we still indulge in vague surmises as to their origin?"

Now, it surely is plain that, given a gingivitis when purulent exudations are present, the whole underlying tissue may become affected with or without the prejudice of predisposing conditions or faulty metabolism. In 1877 the French investigator, Magitot, wrote as follows: "The essential and distinguishing characteristic of gingivitis is the result of the presence of tartar in deposits more or less extended and localized within the places of this material." "In the more marked form the affection is more extended. There is a festooned tumor with true absorption of the gums of the teeth, denuding them to a certain extent; they bleed at the slightest touch. Arrived

at this stage the disease is generally complicated with a certain degree of looseness and deviation of the teeth, due to the continuation of the inflammation in the alveolo-dental periosteum. *This after phenomenon is a consequence of the primitive infection."*

Let us now consider the following question: Is gingival irritation, which may result disastrously, ever due to operative procedures? Various writers have assigned this as a cause; have inveighed against the use of ligatures, separators, wedges, and the improperly finished cervical margins of fittings. The latter cause we all acknowledge is a potent one, but only the careless operator is guilty of leaving such margins. There is, however, one *accepted* operative procedure which originates gingival irritation, and that is the use of bands for crowns and bridge supports. I will ask you to follow me in the following very plain statement, viz.: *Any procedure which changes the conformation of the tooth at its cervical portion from smooth, anatomical and graceful lines to irregular and interrupted form, irritates the gingivae and invites calcic deposits, and gum recession.*

Any observant member of our profession, especially he who is solicitous about gingival irritation, and whose attention is given to pyorrheal conditions, can testify to the destructive results from irritation and calcic deposits following inflammatory conditions from band irritation. Is it possible that modern dentistry in its grand march forward has overlooked this—has placed burdens upon this gingival border too grievous to be borne? We would feel insulted were we told that we have been traveling backward! But it remains capable of proof that earlier dentistry was much kinder, to the gingival border at least, than the dentistry of today, and this has come about because we have thought it necessary to use an encircling band which impinges upon the gingival territory and creates a receptive brace to catch precipitations of calcic matter.

Experience of any specialist in gingival disorders will, we believe, prove the statement that in 90 per cent of teeth with banded crowns calcic deposits will be found and which are the result of the changed form at the cervix, creating irritation with exudation. The band also destroys the proximal space and invites imperfect cleansing. We would be ashamed to leave a filling with a shoulder at the cervix like a band makes, yet we go blindly on placing thousands every day, because, forsooth, it is easier, or we believe strength can not be secured otherwise.

The question of ease I will not consider; but the question of securing an attachment combining all necessary strength without the band is a most important one. Durability in crown work and bridge work must never be overlooked. We believe as follows: "*Every tooth root which has sufficient strength to be crowned can be used for a crown or for a bridge support without banding.*" I am confident in the belief that a metal cap swaged and burnished to an irregular surface and supplied with strong, close fitting pins extending rootward, needs not the additional support of the objectionable band. Experience will prove to you, as it has to me, the truth of the foregoing statement. Without going into any description of how crowns minus bands may be made for the various teeth—for you all know this—I simply pass around a molar in the form which I use. Of course, a facing is used where the gold might be conspicuous.

In conclusion, I desire to thank you very kindly for your courtesy. I trust that my coming before you may cause some one who is too careless of the gingival border to be more solicitous for its integrity, *to not be doubtful of the result of local treatment because predisposing systemic conditions exist, and finally, to enlist with me in the war against bands.*—Bur.

PRIMARY INFECTION OF THE SALIVARY GLANDS IN THE OLD.

G. Etienne (*Prov. Med.*, May 26, 1906) briefly summarizes the various means which prevent infection of the salivary glands and ducts occurring in a state of health. These are the sweeping away by mastication, deglutition, and the taking of liquids, especially when acidulated or alcoholic, of the numerous microbes occurring in the buccal cavity, and particularly the antiseptic properties which normal saliva possesses. If the acts of mastication or deglutition be diminished or suppressed, such as may occur after gastrostomy or gastroenterostomy, the secretion of saliva is rendered sluggish, stagnation occurs in Steno's duct, and invasion of the orifice of the duct and infection of the salivary gland by microbes is liable to occur. In acute diseases, such as pneumonia or typhoid, a similar state of things is liable to be present. In old age these modifications of the buccal functions are most marked, and readily explain the not uncommon

occurrence of inflammation of the salivary glands found in these patients. The involvement of the salivary glands occurs by a spreading up of infection from the orifice of the excretory duct, and is assisted by a previous affection of the gland parenchyma, such as may occur in acute infectious diseases. In old people the salivary glands are found to have undergone certain degenerative changes which render them very liable to infection spreading from the buccal cavity; in some the gland is found to be invaded by adipose tissue, which cuts up the lobules and surrounds the *cul de sac*, so that the secretory canals appear reduced in size; this invasion of fat begins at the periphery of the lobules, and little by little reduces the whole gland, so that it resembles a tree with branches, but deprived of leaves; the excretory canals are much more atrophied than the secretory. In more advanced cases one finds the canals dilated, the cells lining them deeply colored and presenting scarcely any longitudinal striation; they are small, cubical, crowded together, and with elongated nuclei. The glandular *culs de sac* are very small, and at certain places the canals are dilated to form ampullæ with very modified cells, possessing no trace of secreting function; around the canals the connective tissue is abundant. The author finds that acute salivary gland infection is common amongst old people (sixteen out of forty-five cases were in the aged), and in such is much more frequently a primary manifestation than when occurring in younger people. The special frequency with which the parotid salivary gland is affected, the author thinks, is due to the exposed state of Steno's duct, to the parotid secretion being largely dependent upon reflex stimulation from the buccal cavity, and to the fact that the function of this gland is more affected by any interference with mastication and deglutition than is that of the other salivary glands. The sublingual gland is comparatively rarely involved by infection, probably owing to the movements of the tongue in speaking, etc., preventing any stagnation of secretion in its duct.—*The Dental Surgeon.*

WHY THE SO-CALLED GOLD ANNEALER SHOULD BE USED IN GIVING THE HEAT TREATMENT TO GOLD FOIL.

BY M. L. WARD, D. D. S., ANN ARBOR, MICH.

It is with reluctance that, in the midst of this porcelain epidemic, I attempt to present anything which will stimulate an interest in the subject of gold filling, which, in the minds of a great many, is being too rapidly consigned to obscurity.

It is getting more and more obvious every day that altogether too many operators who have served their patients well for years are failing to realize the intoxicating effect of "something new," and are being led astray by the porcelain enthusiasts who often cast aspersions and caustic remarks at the men who are delinquent in taking their porcelain in the usual large doses that are now being administered.

It is true that in some cases more artistic work can be done with porcelain, but who among us would enumerate the requisites for a good filling material and place color above durability when the operation was located in a remote part of the mouth? But the specialists say, "the convenience to both operator and patient in inserting the filling is a greater blessing than anything that was ever given to the profession before," and continue the tirade against some of our most conservative men, though they are undoubtedly the best ones, by terming them "partial converts."

It is certainly incomprehensible that men claiming to be leaders in this progressive period of dentistry can be (to put it mildly) so inconsistent as to visit some of the most energetic and conscientious men in the profession, and at the sight of a gold annealer, remark that it no longer has a place in their office, that the user was not converted; or that if he believed in porcelain at all he believed in it altogether, and that if porcelain was good for one place it was good for every place in the mouth.

I would affirm in the most positive manner that those who indulge in such remarks have not the remotest claim to the position

Read before the Southwestern Michigan Dental Society, at Niles, Mich., April 10, 1906.

they assume to occupy; nor are they accomplishing the good that they might by teaching the principle that porcelain should be inserted in a most artistic manner in all visible locations, and only in such remote places as were not exposed to the forces of mastication.

I feel that we owe an everlasting debt of gratitude to the porcelain workers for the impetus they have given this subject, though I am confident that the near future will prove that porcelain, like all other filling materials, has its limitations, and that these same enthusiasts will be forced to admit that the field for porcelain fillings is not limited by the skill but by the judgment of the operator.

Is the gold annealer to be a thing of the past, as the porcelain enthusiasts say, or is its field of usefulness to be lessened by the judicious insertion of porcelain and gold inlays?

Has porcelain come to substitute any or all of our filling materials completely, is it only another one with which we can imitate nature more closely? These are the questions which confront us now and are being decided in favor of the latter by many men who are worthy to be classed with the broadest in the profession.

One might as well try to convince Dr. Honey that the gold inlay was not preferable to the porcelain in many locations, or to teach Dr. Hines that standard alloy is not preferable to the high percentage silver alloys in some cases, as to try to teach good operators the total extinction of the gold annealer and gold foil as a filling material.

It is probable the amount of gold foil used for fillings has been materially lessened by the introduction of porcelain and gold inlays, but it is by no means supplanted by either of them, and must be considered one of our standard filling materials for some time to come, at least. With the rapid advancement that has been made in dental electricity within the last few years, has come a device which has not claimed the attention that is due it as a most efficient means of preparing gold foil for filling.

This device, "the so-called gold annealer," a very misleading name, enables one to heat the gold sufficiently to effectively drive off all deposits from its surface without contaminating the gold. It is quite generally understood now that all gold foil for filling teeth is, and should be, as pure as it can be made, though it is claimed by many that its cohesiveness is not interfered with when slightly alloyed with certain metals.

It is also well known that there is little difference between cohesive and non-cohesive gold, as it comes from the manufacturers, except that the non-cohesive has ammonia gas condensed on its surface.

They were both *purified, beaten and annealed* in the same manner, but just previous to marketing a part of the lot is passed through ammonia fumes and marked non-cohesive simply because these fumes form an imperceptible film which, while not affecting the purity of the gold itself, prevents intimate cohesion of the different layers of gold. From this we may see that a pellet of cohesive gold may be made non-cohesive by exposing it to the influence of ammonia gas, and this pellet thus rendered non-cohesive may in turn be made cohesive by driving off the gas with heat. This latter process is what we actually accomplish in our every day operations with non-cohesive foil when we heat it and it is in no way intended to anneal the gold.

The "so-called annealing" of gold foil is not analogous to, nor in any way connected with, the annealing of plate gold which has become hard by hammering and has to be raised to a red heat to relieve it of the state of strain. Much of the difficulty experienced by operators in the insertion of gold is undoubtedly due to faulty methods of giving it the heat treatment, and even among operators who are sufficiently skilled to obtain good results by the ordinary methods, there is much to be gained by adopting some of the more recent advantages that are afforded us in the use of the "so-called electric gold annealer." Most operators are in the habit of heating their gold by passing it through the flame of a spirit lamp, or a Bunsen burner, but in either instance we are never certain of always having a pure flame; besides there is not one in a dozen that understands that he is removing gases and not developing cohesion, which is an inherent quality of the pure clean gold itself. To remove these gases uniformly and completely a comparatively low heat and more time is required and this is best accomplished with an electric annealer. It has been shown by experiment that the cohesive property of ordinary gold foil as it comes from the manufacturers shows itself at about 250 degrees F. and increases from this point to about 375 degrees F., after which nothing is gained. As this heat is not visible many dentists who have not tried the gold annealer with its low heat believe that gold annealed in this way is not thoroughly annealed, but clinical use shows it to be most cohesive.

It must not be understood that this amount of heat would be sufficient if the gold is held in the pliers where a large amount of heat is conducted away nor would it be sufficient if the gold were subjected to it for a short time only. It is, however, sufficient if the gold has not been too tightly rolled and the ends of the pellets are not crimped by cutting with the shears so that the gases can not escape readily. I do not mean to infer that these gases can not be driven off quite uniformly by passing the gold through the flame of a spirit lamp or a Bunsen burner, nor that for the general work of filling teeth it has not been done very well in the past; but who is there among us who can not recall some nice operation that he has done that later on developed pits on its surface due to failure of some piece of gold to weld? Who is there that can doubt but that gold rolled by machinery with the ends of the pellets wide open, as they are furnished us now, when placed upon an electric annealer will develop a higher and more perfect cohesion than any gold that was ever rolled by hand and heated by holding it with the pliers in the different flames which are often vitiating and contaminating? The presence of moisture in the air always affects the alcohol flame, because of the great affinity which alcohol has for water. An undue humidity in the operating room often results in a vitiated flame which shows itself with a yellowish tinge. The flame from a Bunsen burner is more reliable than the alcohol flame, but it, too, will give a variety of results depending upon the location of the gold in the flame and the purity of the gas.

The lower part of such flames consist of gases, while the upper part is largely products of combustion, and when at their best it is very doubtful if gold coming in contact with them is not in danger of contamination. Granted that the flame used was in perfect condition, the other methods of procedure necessary to carry out this manner of annealing are certain to give unequal results. A pellet of gold that is picked up in the pliers and passed through the flame is quite certain to have from one-fourth to one-half of it between the plier points imperfectly annealed, even though the end of the pellet most remote from the pliers is heated to its melting point, and beside a portion of the pellet has been compressed so tightly that gases, no matter how easily driven off, would be mechanically held in the pellet, thus preventing a welding of the different layers. Some operators claim to obviate this difficulty by rolling the gold into a rope

and then heat the entire rope on a sheet of mica.

This eliminates the danger of contaminating the gold with the gases and products of combustion, but is usually accomplished in so short a time that the gases can not escape from a rope of gold unless the rope has been made very loose and the temperature has been previously high.

Should the operator succeed in removing the gases quite completely there is another objection, while it may appear a trivial one to some, it should be considered in this connection, viz., the impact of the scissors in cutting pellets from a rope of annealed gold compresses the ends so much that they are not obedient to the plugger point nor readily adapted to difficult angles and margins.

One operator claims to change ends with every pellet of gold, thus getting both ends of the pellet well heated, but even then he has not overcome the objection of compressing the pellet so that the condensed gases are mechanically held in the pellet.

Another operator claims to hold his gold in the flame with a plugger point and in this way avoid compressing the ends of the pellet and at the same time has a minimum amount of heat conducted away. While this method is better than the pliers, unless the plugger point is heated sufficiently to ruin its quality as a plugger, the gold is never perfectly annealed in the region of the point, beside there is a great liability of the products of repeated oxidation of the plugger point being incorporated in the filling only to be disclosed upon some conspicuous surface after some little attrition on the filling.

From what has been said it would seem that even the most casual observer should be convinced that, while beautiful gold fillings are being done without the electric annealer, it possesses fewer disadvantages than any other device that has been brought to our attention, and that gold that has been heated on it has a working quality that can not be obtained in any other way.

The time saved by using the annealer instead of holding the gold in the flame is not a minor consideration, since all operations with gold foil consume a comparatively large amount of time. Even with operators who are rapid workmen it will be found to save them upward of 25 per cent of the time ordinarily required to insert such fillings. Those who are not located where the electric current is at their command, should find the annealers that are made for gas and alcohol flames preferable to the naked flame, though if they are not

carefully managed, they will not give much more uniform results than the flame itself, because of the uneven distribution of the heat over the annealing tray. In conclusion, I will say that I firmly believe that those who once become accustomed to the soft, though highly cohesive, property of gold prepared by machinery and heated on an electric annealer, will have no desire whatever to return to the older methods.

I also believe that the average operator, even though he sacrifices something on density and tensile strength, will, with this method, secure an adaptation that will raise the percentage of his successes.—*Register.*

TO REPAIR BRIDGE.

The first thing in repairing a bridge, I take a facing suitable to the case in hand. I drill my holes through the backing, and adjust the teeth in the proper position. Then I have a thin sheet of platinum—there is less danger of burning by solder than gold. Take a pair of pliers. Rub that around the tooth-pin, it will form a tube. Then clip off the pin from the tooth; close up the tooth; put the smallest particle, if solder, on that with a little borax; bed the tooth in the compound composed of asbestos and Portland cement—I buy it from hardware stores; they use it for covering plumbing. I do not wet the investment, but simply heat it up. Then you have a tooth with two hollow pins in it. Enlarge the hole slightly in your backing. Adjust your tooth. Use your cement if necessary. I use a ball-headed burnisher to spread the tube on the lingual end, and I have an attachment somewhat similar to the attachment on the eyelet in a shoe. It makes a small hole there, which, if you are using platinum you can fill with amalgam or with gold. If it is inaccessible you should use amalgam; if it is accessible it is preferable, of course, to use gold. You can hardly tell that the tooth has been replaced. I have been doing that for some years. So far I have found it entirely satisfactory.—*Dr. W. A. Burns, in Dominion Dental Journal.*

NOTICES OF MEETINGS

NATIONAL SOCIETY MEETINGS.

American Society of Orthodontists, New York, December, 1906.
Institute of Dental Pedagogics, Chicago, December 27, 28, 29.

INDIANA STATE BOARD.

The next regular meeting of the Indiana State Board of Dental Examiners will be held in rooms 11 and 12, State House, Indianapolis, January 8 to 11, 1907. All applicants for registration will be examined at this time. For further information, blanks etc, apply to the secretary, F. R. Henshaw, D. D. S., Middletown, Ind.

KENTUCKY STATE BOARD.

The Kentucky State Board of Dental Examiners will hold their next meeting for the examination of applicants the first Tuesday in December. Every applicant must be a graduate of a reputable dental college. For further information address the president of the board.

J. RICHARD WALLACE,
"The Masonic," Louisville, Ky.

INSTITUTE OF DENTAL PEDAGOGICS.

The fourteenth annual meeting of the Institute of Dental Pedagogics will be held in Chicago on the 27th, 28 and 29th of December. The following subjects will be discussed:

"Teaching of Anesthesia: The Emergencies, How Treated, How Prevented."

"Teaching of Operative Technic."

"Teaching of Prosthetic Technic."

"A Method of Teaching Orthodontia."

"Teaching Porcelain Technic."

"Teaching of Materia Medica."

"Report of Committee on Dental Nomenclature."

W. EARL WILLMOTT.

IOWA STATE BOARD OF DENTAL EXAMINERS.

The Iowa State Board of Dental Examiners will hold its next meeting at Iowa City, beginning at 9 a. m., Tuesday, December 4, 1906.

Written examination in all the regular college branches, also practical work in operative dentistry. Engines will be furnished, but instruments and materials must be furnished by the applicant.

Applications must be in the hands of secretary at least five days prior to above date. For application blanks and further information, address E. D. Brower, secretary, Le Mars, Iowa.

NATIONAL DENTAL ASSOCIATION.

At the tenth annual session of the National Dental Association, held at Atlanta, Georgia, September 18-21, 1906, the following officers were elected for the ensuing year:

President—A. H. Peck, Chicago, Ill.

Vice-President for West—D. J. McMillen, Kansas City, Mo.

Vice-President for East—George E. Hunt, Indianapolis, Ind.

Vice-President for South—George S. Vann, Gadsden, Ala.

Recording Secretary—Chas. S. Butler, Buffalo, N. Y.

Corresponding Secretary—Burton Lee Thorpe, St. Louis, Mo.

Treasurer—A. R. Melendy, Knoxville, Tenn.

Executive Council—H. J. Burkhart, Batavia, N. Y.; J. Y. Crawford, Nashville, Tenn.; Chas. McManus, Hartford, Conn.; F. O. Hetrick, Ottawa, Kas.; B. Holy Smith, Baltimore, Md..

Executive Committee—C. M. Work, Ottumwa, Iowa; V. H. Jackson, New York City, N. Y.; Thomas P. Hinman, Atlanta, Ga.

Next meeting place Minneapolis, Minn., July 30, 1907.

BURTON LEE THORPE,
Corresponding Secretary.



OBITUARY

DR. DWIGHT M. CLAPP.

Dwight Moses Clapp, D. M. D., who died at his summer home at Lynn, Mass., was for many years one of the most prominent and influential of Boston dentists.

He had been in failing health for the last three years and overwork caused an attack of heart disease on June 4, from which he never fully rallied.

Dr. Clapp was born in Southampton June 5, 1846. After graduation from Westfield Academy he studied dentistry with Dr. H. M. Miller, of Westfield, Dr. James Lewis, of Burlington, Dr. Charles R. Coffin, of London, and Dr. Mason, of Geneva.

In 1882 the Harvard dental school conferred the degree of D. M. D. upon him and offered him the chair of instructor in operative dentistry, which he occupied for a year. In 1890 he became clinical lecturer in operative dentistry in the Harvard school, a position which he held until his death. In 1899 he was made a member of the administrative board of the Harvard dental school and remained on the board during the rest of his life.

He was the author of the chapter on "Combination Fillings" in the "American Text Book of Operative Dentistry," and of numerous articles contributed to the various dental magazines. He served at various times as president of the Harvard Dental Alumni Association, the Massachusetts Dental Society and the Harvard Odontological Society, held membership in the Boston Dental Improvement Society, the American Academy of Dental Science, the National Dental Association, the New England (afterward the Northeastern) Dental Association, and the New York Institute of Stomatology, and for a period of ten years was a member of the Massachusetts board of registration in dentistry.

He was a member of the Boston Art Club, the University Club, the Oxford Club of Lynn, the Appalachian Club and the Megantic Fish and Game Club and owned a camp in the Maine woods, where he was accustomed to spend a large portion of each summer.

In May, 1872, Dr. Clapp was married to Miss Clara Josephine Simonds of Lynn, daughter of Henry Simonds. She survives him, as does his son, Howard.

MISCELLANEOUS

EXTENSION FOR PREVENTION.

My advice is, cut back until you think you have cut enough; then cut some more for fear you haven't.—*John Campbell, the Dental Era.*

INLAYING A GOLD MATRIX.

Burnish a piece of heavy No. 30 or 60 gold foil into the cavity and cement it to place. Then fill the cavity with gold in the usual way. This insures marginal contact and adhesion, consequently a water-tight filling.—*British Journal.*

DECOLORING STAINED INSTRUMENTS.

The discoloration or coating which results from the frequent sterilization of instruments by boiling, may be removed by rubbing them with a cloth saturated with an aqueous solution of two ounces each of prepared chalk, ammonia, and alcohol.—*Byram, in Review.*

BAKE, NOT BROIL, PORCELAINS.

Dr. J. E. Nyman says: "I am quite confident that we have all been fusing our porcelains too quickly. You can obtain the same result by prolonging the time of the exposure, and cutting down the intensity. We have been broiling our porcelain instead of 'baking' it."—*Dental Register.*

FORMALDEHYDE.

Polymerized formaldehyde—formaldehyde in a solid form—has all the qualifications necessary to a perfect dental antiseptic. It is most penetrating; it is soluble in water; it does not produce a coagulum; when properly applied its toxic or escharotic effect is *nil* and pain seldom or never follows its application unless it be in dead teeth, in which the simple act of opening seems to arouse the latent forces around the apical portion of the tooth. But the pain and soreness following its application invariably subside within a few hours, when the tooth is ready for permanent filling.—*L. B. Lawrence, Dental Cosmos.*

TO CEMENT ARSENIC IN CAVITY WITHOUT PRESSURE.

Mix the cement rather thin and place a small drop on a small bit of paper and carry the paper to the cavity with the pliers. Press to place with a burnisher. The paper facilitates adjustment to place and prevents cement adhering to instrument.—*C. B. Warner, Avon, Ill., Tri-State Dental Quarterly.*

CLINICS.

The state, national and international congresses to be successful are obliged to conduct clinics. These grow more popular each year. The science of dentistry is also a failure. The side-shows—the tooth fillers and plate-makers—and the camp-followers—with trinkets to sell—are the interesting attractions. The profession has been entertained *ad nauseam* by the same continuous performances for the past three decades. Dentists are content to listen at every society meeting to the same antique nursery rhymes—preparation of root-canals, treatment of alveolar abscess, choice of filling material, oral hygiene, etc., heard over and over again for decades—seeming to enjoy them, and applaud the speaker with as much energy as though they were original work heard for the first time.—*Dr. Eugene S. Tabot, in Cosmos.*

PHILADELPHIA WINS IN EVANS' WILL CASE.

After nine years' litigation the decision handed down by the Appellate Division of the Supreme Court in the Evans' will case is expected to result in this city acquiring the bequest of \$3,000,000 of the famous American dentist for the building of a museum to his memory. The decision reverses a decision of a lower court, under which the heirs were awarded \$800,000 in place of \$250,000 provided by the will.

It is believed that the decision will greatly help the city's legal authorities in demanding distribution of Dr. Evans' New York estate. Hitherto the decision of the lower court in favor of the heirs has estopped the city in that regard, and its efforts have been largely directed to securing distribution of the Evans' estate in Paris. The French executors up to this time have refused to make any accounting and under French law the city has had no redress.—*Public Ledger.*

DENTAL CARE FOR CITY'S POOR.

At a recent meeting of the New London (Conn.) County Dental Association the subject of establishing a dental infirmary for the benefit of the city's poor was enthusiastically discussed. All local members of the association expressed their support and two pledged the gifts of chairs for the infirmary. One-half day's time will be given to the work by each member in rotation. It was the opinion of the prominent members that the city's poor are very negligent about the proper care of the teeth and the infirmary would be a great boon for their health and welfare.—*New London Day.*

LARGE PORCELAIN RESTORATIONS—NEW METHOD.

Prepare cavity as usual for porcelain and in making matrix be sure to anneal well if platinum foil is used. Paint walls of matrix with a solution of shellac, leaving floor free if an approximal cavity. Let dry and fill with foundation body to about the contour desired, leaving room, of course, for the enamel bodies of the desired shades. Bake as usual, without any precautions taken heretofore, such as the cutting of grooves, inserting pieces of very high-fusing porcelain, etc. On removal from the furnace you will find a crevice between matrix and porcelain. Now fill crevice with enamel bodies of the desired shades and finish as usual. The porcelain adheres only where the matrix is free from shellac. If the shellac is used correctly it makes it impossible for the porcelain to pull the matrix. It can be used with success in large restorations in the anterior teeth by painting the labial half and the cervical third. This helps to preserve the contour by the shrinking of the porcelain away from the matrix instead of toward it. Then fill with enamel body the crevice and the labial portion which has been cut away for shading. Finish as usual. The shellac burns out at a very low heat and has no effect on the porcelain whatever. To produce a clear solution, take a two-ounce bottle half full of powdered shellac, fill with alcohol and shake well. Let it stand until thoroughly clear on top, then pour off into small bottle for immediate use. The large bottle may be filled with alcohol and put aside for future use in same manner. G. S. Hershey, D. D. S., Michigan City, Ind., *Dental Digest.*

TREATING FOR ALVEOLAR ABSCESS.

I believe it is a mistake to carry a tooth along through weeks and weeks of treatment through the pulp chamber, and many of us make a mistake in treating teeth too often. Whenever an abscess forms about a root it nearly always surrounds the apex of the root. It destroys the peridental membrane around the sides of the root, consequently treatment through the root canal does not get at what we want, and after pus has been present some time, if the surface of the root has been bathed in pus for many weeks, we will get satisfactory results from treatment through the pulp chamber in very few cases. I do not practice immediate root filling in such cases, but I have done it "more immediately" than is the general custom. In such cases I prefer to fill the root canal, and, if necessary, make an opening through the alveolar process.—*Arthur D. Black, Chicago Dental Review.*

MATRIX FOR PACKING PORCELAIN.

As we all know, the more dense we can pack the body the less shrinkage. In building up a large molar crown to be finished with one baking I have been pleased with the following experiment: Having the pins gripped firmly in the proper holder, I cut a strip of sheet steel—of the thinnest sort, such as we use for matrices—and pinched this together around the cap with a small screw vise. Then I oiled the inner surface of the matrix to prevent the porcelain from adhering. I was then able to pack the body of the crown very quickly and firmly, absorbing the moisture that was pressed to the surface from time to time with blotting paper. I built high enough to allow for prominent cusps, then released the vise hold upon the matrix. The spring steel let go, leaving a fine general contour and smooth surface. Then after having cut away enough of the plaster teeth adjoining to allow about one-sixth for shrinkage, the tooth to be was placed in the articulator and cusps carved to shape. Any required special forms of contour were added with a brush. I am sure that I got less shrinkage and a considerable saving of time by this method.

I may add here that it seems to me that I get a good final surface with soft spunk, dry or slightly moist, upon the nearly dry surface of the body.—*Garrett Newkirk, Pasadena, Cal.*

PERSONAL AND GENERAL

Retires.—Dr. Edwin J. Walton, of Richmond, Mich., has retired after a practice covering forty years.

Dr. David S. Arnold, a well-known dentist in Atlanta, Ga., died suddenly of heart disease September 27.

Myron E. Collins, a sophomore student in the University of Minnesota, died in the hospital in Minneapolis October 10.

Fire.—Dr. F. C. Allen, at Bonham, Texas, suffered the loss of \$1,000 through fire in his office caused by a gasoline stove.

Dr. Joseph R. Kennedy, a pioneer dentist in Seattle, Wash., is dead at the age of 98. He had practiced at that place since 1883.

Kinnison-Mulcahy.—Dr. F. L. Kinnison, a dentist at Scarbro, W. Va., and Miss Nellie Mulcahy, of Montgomery, were married October 9.

Balsiger-King.—Dr. Balsiger, a dentist at Mars, Pa., and Miss Eva King, of North Hope, Pa., were married in the latter place September 19.

Norner-Oglevee.—Dr. Carl S. Norner, a dentist at Connellsville, Pa., and Miss Lyda Oglevee, of Vanderbilt, were married at the latter place October 10.

Eller-McCoy.—Dr. L. R. Eller, a dentist at Anita, Iowa, and Miss Bessie McCoy, of Washington, Iowa, were married at the latter place recently.

Wilkins-Harlan.—Dr. Fred E. Wilkins, a dentist in Oakland, Cal., and Miss Nevada Harlan, of Geyserville, were married in the latter place October 20.

Henderson-Bjoin.—Dr. F. C. Henderson, a dentist at Stoughton, Wis., and Miss Ada Bjoin, of Rice Lake, were married September 19 at the latter place.

Blair-Seaman.—Dr. John T. Blair, a dentist of Reading, Pa., and Miss Emely Seaman, of Hamburg, Pa., were married at the home of the bride September 20.

Dentist Injured.—Dr. Robert Roessler, a dentist in Hoboken, was severely injured when the horse upon which he was mounted was run down by a trolley car.

Thomas-Hanirick.—Dr. John Durbin Thomas, a dentist in Philadelphia, and Miss Elsie Passmore Hanirick, of Anaheim, Cal., were married in the latter place recently.

Greenawalt-Russell.—Dr. R. A. Greenawalt, a dentist at Lamont, Iowa, and Miss Stella M. Russell, of Tiffin, Iowa, were married at the latter place September 12.

Dr. Archibald Young Gray, a dentist in Marine City, Mich., died of typhoid fever at the home of his parents in Sarnia, Ont. Dr. Gray was a graduate of the Philadelphia Dental College, '02.

Dr. E. J. Klinck, one of the oldest dentists in Utica, N. Y., died suddenly of acute pneumonia October 10. He had been in practice in Utica since 1867 and was 61 years old.

Tri-County Dental Society held a meeting in Freeport, Ill., in the office of Dr. Shelp September 27. The society is composed of dentists from Stephenson, Ogle and part of Carroll counties.

Pringle-Rockafellow.—Dr. Maynard Pringle, a dentist at Carson City, Mich., and Miss Lulu Rockafellow, of Muir, Mich., were married in their newly furnished home in the former place September 12.

Dentists Organize.—The dentists of Porter county, Ind., have formed the Porter County Dental Society. Dr. J. R. Pagin was elected president and Dr. C. M. Cahill secretary and treasurer at a meeting held in Valparaiso.

Dentist Bankrupt.—Horace H. Withers, a dentist at 2600 State street, Chicago, filed a petition in insolvency October 11. His liabilities reach \$23,975 and his assets \$2,700. The majority of the creditors live in Kansas and Missouri.

Burnett-Stoffel.—Dr. C. R. Burnett, and Miss L. E. Stoffel, both of St. Louis, Mo., were married in that city September 8. Dr. Burnett formerly lived in Hampton, N. Y., and the two became acquainted while both were attending college in Philadelphia.

Dr. O. M. Daymude, a dentist in Monmouth, Ill., is in a critical condition from an attack of appendicitis. Dr. Daymude is a prominent member of several dental societies; is a man the profession can not spare and we shall hope for his speedy recovery.

Dr. Brady Honored.—The Cedar Rapids Dental Society gave a dinner September 27 in honor of Dr. W. J. Brady, who goes to Western Dental College at Kansas City, Mo., as Professor of Orthodontia. Covers were laid for twenty-three in the club-room and a very finely appointed dinner was served.

Miami Valley Society.—The annual election of officers of the Miami Valley Dental Society held at Dayton, Ohio, resulted in the selection of the following: President, Dr. H. A. Hubbard; vice-president, Dr. G. S. Blanchard; recording secretary, Dr. R. H. McAnally; corresponding secretary, Dr. Edward B. Tizzard; treasurer, Dr. M. C. Saul. The reports of the officers for the past year showed the society to be in a prosperous condition.

Mechanical Dentists Organize.—Steps were taken September 28 at a preliminary meeting of mechanical dentists in New York City, to form the Mechanical Dentists' Union and demand higher wages and better conditions. It was decided to send out circulars for a general meeting of mechanical dentists to be held within the next two weeks, at which organization will be effected.

Southern Illinois.—The Wabash River section of the Illinois Dental Society convened in Albion, Ill., October 9-10 and had a very successful meeting. The following were chosen as officers for the coming year: W. H. Brosman, president; J. W. Linder, vice-president; F. C. Bailey, secretary; C. M. Meade, treasurer; W. Hopkinson, librarian. The next meeting will be held at Lawrenceville in March.

Mercer Dental Association held its third annual meeting and banquet in Trenton, N. J., October 11. A successful meeting was held and the following officers were elected to serve for the ensuing year: President, John E. Woolverton; vice-president, John C. Forsyth; secretary, Warren H. Storer; treasurer, Dr. Edwin H. Ginnelley; executive committee, Dr. Forsyth, J. E. Keeler, Joseph Woolverton, G. H. Griffith and D. N. Merrill.

Heavy Registration at Minneapolis.—Unusually heavy registration has nearly swamped the dental college at the university and the officers of the department will be forced to turn away future applicants on account of lack of facilities. A year ago the department was in a similar condition and refused registration to a large number of students. The registration was increased to 150 and the size of the department increased 15 per cent. At present there is laboratory room for only 141 students and 165 have already registered. Provisions have been made with the medical college to accommodate the overflow.

In Switzerland.—Geneva, October 13.—One of the most extraordinary acts of revenge on the part of a dentist that have ever occurred has just taken place in Zurich.

A prominent dentist of that town supplied some artificial teeth to a young dressmaker. For various reasons the woman found herself unable to pay the dentist's bill when he demanded the money. He wrote asking her to call at his consulting-room, and when she entered the apartment he locked the door and began to beat her. When she was cowed utterly he strapped her in a chair, and, forcing open her mouth, extracted the teeth which he had put in.

During the process he dislocated the woman's jaw, and when he released her she had to go to a doctor to have it reset.

She then took legal proceedings against him. He has been fined \$25 and ordered to pay the woman \$50 as an indemnity.—Chicago Inter-Ocean.

REMOVALS.

Drs. Earl Williams from Marshalltown, Iowa, to Nevada; Hugh S. Espey, Jr., from Cincinnati, Ohio, to Vevey; V. H. Rea from Elgin, Ill., to California; Albert Anderson from Greensburg, Ind., to Oklahoma City; Johnson from Sun Prairie, Wis., to Harvard; Glew from St. Henry, Ohio, to Coldwater; E. H. Leib from Chicago, Ill., to Springfield; Bagshaw from Petersborough, Ont., to Toronto; Gary from Appleton, Wis., to Neenah, Wis.; E. Ward from Marquette, Mich., to Tahlequah, I. T.; F. W. Schumacher from Detroit, Mich., to Richmond.

Woman Dentist to Marry.—After giving thirteen years to her profession, Miss Harriet A. Dobell, a woman dentist in Columbus, Ohio, will give up her profession to become a bride.

Her betrothed is W. Bryant Roderick, until a short time since an advertising manager in Columbus, now occupant of a similar position on the San Francisco Chronicle.

Miss Dobell has been remarkably successful in her work. In 1892 she was graduated from the Ohio Dental College at Cincinnati. She was young, but stood very high in her class. For a year she practiced in Cincinnati and then went to Columbus, where she entered a partnership with the late Dr. Joseph E. Barricklow.

Effects of Mastication.—A Yale professor has been conducting experiments with Yale students to determine the effect of complete mastication of food. Every student who subjected himself to the experiment had to adopt the practice to which Mr. Gladstone attributed his prolonged good health of thoroughly chewing every mouthful of food and of putting no food in the mouth until the first morsel was thoroughly masticated.

The nine students who underwent this test took no other exercise than exercising their teeth. Instead of football and dumb-bells, or other outdoor and gymnastic exercises, more time was taken for meals, and the teeth were kept working steadily, with no gulping of food allowed and no drinking permitted to wash partly chewed food down the throat.

There was no fixed diet, and every man was allowed to eat what he pleased three times a day.

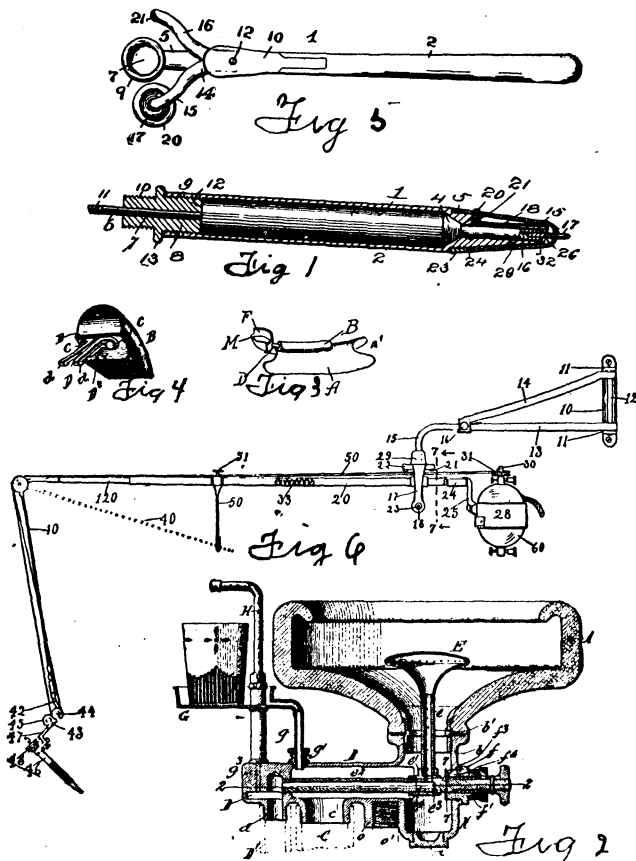
The first thing noticed was that in a few days the men ate less, and at the end of a month they were consuming less than half as much food as had been their prior custom. By the end of the test they voluntarily reduced their consumption of meat by three-quarters.

At the same time, there was a constant increase in physical strength and particularly in endurance. Strength tests indicated steady improvement. The men were able to study longer without harm, to walk further without exhaustion.

With the reduction in the quantity of food consumed came a doubling of the amount of physical energy as determined by the gymnasium tests.

PATENTS.

831,943. Dental Handpiece.—Chester M. Freeman, Brookline, Mass. Filed June 5, 1905. Serial No. 263,843. Fig. 1. Claim.—A dental handpiece, comprising a casing, a rotary spindle arranged therein, a longitudinally-removable tool engaging the said spindle, a spring engaging the said casing and also engaging the spindle for preventing longitudinal



movement thereof, a cap threaded onto said casing and inclosing said spring and means connecting the spring with the cap whereby the cap is prevented from rotating by the engagement of the spring with the casing.

832,263. Fountain-Spittoon.—Theodore G. Lewis, Buffalo, N. Y., assignor to Buffalo Dental Manufacturing Company, Buffalo, N. Y., a corporation of New York. Filed January 29, 1906. Serial No. 298,309,

Fig. 2. Claim.—In a fountain-spittoon, the combination of the spittoon-bowl, a single valve box or housing serving as a support for the bowl and containing a water-supply chamber and a waste-chamber which latter communicates with the bowl, a flush device for the bowl and a tumbler supply-pipe both connected with said supply-chamber, and cut-off valves controlling the passage of the water from the supply-chamber to the flush device and the tumbler supply-pipe, respectively, and both arranged in said housing, substantially as set forth.

832,528. Removable Dental Bridgework.—Ernest C. Bennett, New York, N. Y. Filed February 15, 1906. Serial No. 301,176. Fig. 3. Claim.—A removable bridge comprising a saddle, artificial teeth supported thereon and secured thereto, a longitudinally-movable locking device, and a laterally-projecting locking operating device arranged at the side of said bridge and closely adjacent to the saddle.

831,960. Artificial Denture.—Phillip B. Lesemann, Nashville, and Samuel J. Lesemann, Altamont, Ill. Filed February 10, 1906. Serial No. 300,465. Fig. 4. Claim.—As a means for attaching artificial teeth to a mouth-plate, an anchoring-staple provided with side arms deflected at their extremities whereby to increase their anchoring hold in a cement bed, the said side arms being connected at their inner ends and provided adjacent to said ends with loops for connection with tooth-pins and having between said loops an outwardly-projecting loop extending approximately in the direction of the side arms of the staple, substantially as and for the purposes set forth.

831,307. Dental Tool.—Charles A. Spahn, Newark, N. J. Filed April 28, 1906. Serial No. 314,144. Fig. 5. Claim.—A dental tool for backing false teeth with gold, comprising a pair of pivoted handle portions, a forwardly-extending jaw member provided at its free end with a resilient cap or covering connected with one of said handle portions, and a forwardly-extending arm connected to the other handle portion, said forwardly-extending arm being provided with an oscillating forked jaw member, one of the arms of the said forked jaw member being provided at its free end with a resilient cap or covering and the other arm of the forked jaw member being provided at its free end with a pressure-exerting member, substantially as and for the purposes set forth.

829,395. Dental Engine.—Nathan K. Garhart, Indianapolis, Ind., assignor to Garhart Dental Manufacturing Company, Indianapolis, Ind., a corporation of Indiana. Filed May 25, 1905. Serial No. 262,144. Fig. 6. Claim.—In a dental engine, a bearing-frame, a lever fulcrumed therein, a motor mounted at one end of said lever, a handpiece, means carrying the handpiece pivoted at the other end of said lever, said lever being fulcrumed so as to be substantially balanced, and stops in connection with said bearing-frame for limiting the tilting movement of said lever in either direction.

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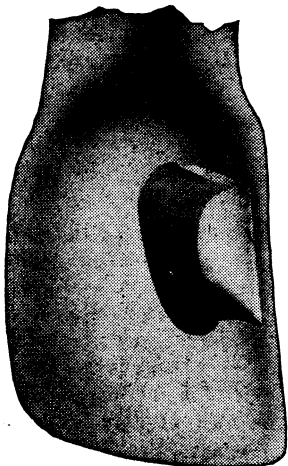
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